

# Sugar Land Pedestrian & Bicycle Master Plan

June 2013









Placeholder for copy of adopted resolution.



June 25, 2013

Patrick Walsh, Director of Transportation & Long-Range Planning  
City of Sugar Land  
2700 Town Center Boulevard  
Sugar Land, Texas 77479

Re: Draft of the Sugar Land Pedestrian and Bicycle Master Plan

Dear Mr. Walsh:

Halff Associates Inc. is pleased to submit this report for the Sugar Land Pedestrian and Bicycle Master Plan. This report strives to capture the many observations and findings developed as part of the planning process, and to match those to the desires and expectations of the citizens of Sugar Land. The Plan's recommendations seek to improve the condition of walking and bicycling in Sugar Land by seeking first and foremost to create a citywide system of interconnected on- and off-street pedestrian and bicycle facilities that link all parts of Sugar Land.

Recognizing the economic, health, sustainable, and environmental benefits of walking and bicycling as a form of recreation and transportation, the Plan also identifies existing and potential opportunities to expand the education and promotion of walking and bicycling to all people of all backgrounds and all abilities so that they aren't just alternatives, they are standards.

As in any comprehensive analysis, this document contains many recommendations that are prioritized over time. Many of the actions in this Plan are immediate in nature and can be developed as funding becomes available. Others can be developed in conjunction with ongoing development. It encourages the collaboration among departments and agencies across the City to leverage funding and implementation opportunities. Finally, some are long-term actions that may not be funded for some time, but that are shown to ensure that they remain present in the City's planning for the future and as new funding sources become available.

Ultimately, this plan stresses that citizens of Sugar Land desire to create a sustainable city by planning for alternative transportation and healthy, active living. As an important component of a community's infrastructure, pedestrian and bicycle facilities can transform Sugar Land and continue to make it one of the best places to live in Texas.

We greatly appreciate the opportunity to have worked with you, your staff, and the citizens of Sugar Land.

Sincerely,

Halff Associates Inc.

Jim Carrillo, FAICP, ASLA  
Vice President, Director of Planning



The Sugar Land Pedestrian and Bicycle Master Plan would not have been possible without the feedback, input, and support provided by Sugar Land's citizens. We'd like to thank all participants in the planning process, other interested individuals who gave their feedback on this planning effort, and members of City staff who made themselves available to answer technical questions and provide information on specific topics related to this master plan.

## **ACKNOWLEDGEMENTS**

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## EXECUTIVE SUMMARY

### Sugar Land as a Great Place to Walk and Ride

Sugar Land is already one of the premier communities in Texas, and it continues to excel at meeting the needs of its residents. While always acting carefully and considering its options, the City's leaders have never been afraid to look into the future, envision the needs and desires of its residents in the future, and plan towards that future.

Bicycling and walking are necessary components of an efficient transportation system. A connected network of well-designed bicycle and pedestrian facilities will allow more choices in how citizens of Sugar Land get around the City.

### Goals and Vision for this Plan

The Pedestrian and Bicycle Master Plan strives to be both visionary and practical. The Plan foresees a future network of on-street and off-street corridors that allow residents the choice to easily go anywhere in Sugar Land by riding or walking. The Plan also envisions connections to all neighborhoods via readily accessible, safe and attractive facilities, developed over time in a way that is efficient, cost effective and that focuses on providing facilities where they are likely to be frequently used.

Guiding goals for this Plan are as follows:

1. Develop an exemplary network of facilities for walking and bicycling throughout Sugar Land that is actively utilized and safe for all users;
2. Incorporate the most current standards and best practices for safety, and provide facility options for all ages and skill levels;
3. Along major roadways in the City, emphasize off-street facilities, but if feasible, also provide on-street facilities for experienced riders;
4. Measurably increase the use of the network for both transportation and recreational uses as it is implemented;
5. Provide a variety of off-street opportunities for all types of activities, both active and passive;
6. Maintain compatibility with adjacent private properties by creating trails that respect and preserve the rights of adjacent homeowners but that provide access to as many residents of the City as possible;
7. Actively seek partnerships with other governmental entities, homeowner associations, private property owners and developers to expedite and enhance the creation of the network envisioned by this Plan; and
8. Identify ways in which to accelerate the development of the network, so that much of the system is in place within a decade.



*Figure E-1 Bicyclists and pathway users in Sugar Land today.*





## This Plan Reflects Extensive Input from Sugar Land Residents

This Plan is the result of significant public input, stakeholder input, and public meetings. It also was guided by a citizen Pedestrian and Bicycle Master Plan Task Force, who met five times during the process to review the findings and recommendations and to provide input. The planning team used multiple methods to gather more than 1,700 comments from Sugar Land residents (as shown in Figure E-2) about their concerns and vision for the future of walking and bicycling. This input ensures that this Plan reflects community preferences as to what types of facilities to implement and where they should go.

- **Public Outreach Events or Activities**
  - Citywide Open House (60 + responses)
  - Online survey (380 responses)
  - Online mapping activity (1,100+ comments)
  - 9 Stakeholder meetings (75+ representatives)
  - Online Town Hall (41 comments)
  - Direct citizen comments to staff
- **Public Meeting #1 (54 attendees)**
- **Mid-project workshops (P&Z, Council)**
- **Neighborhood meetings (7 neighborhoods)**
- **Public Meeting #2 (60 attendees)**
- **Workshops at Parks Board, P&Z**

*Figure E-2 Public Outreach Summary*

## What Does the Public Input Tell Us?

Many key themes were derived from combining all forms of public input that were received.

- Recreation still #1 reason for walking & bicycling;
- However, many trips are for shopping or to go to school;
- Off-street is the most preferred facility;
- High level of support for on-street bicycle lanes (buffered bike lanes preferred);
- Biggest destinations are parks & trails, Town Center, and shopping areas;
- Significant walking/biking to school among children;
- Barriers are a significant concern; and
- There is an interest in implementing a significant portion of the network sooner so the timing of implementation is important.

## Creating a Citywide Network

Opportunities to create a citywide network of great walking and bicycle riding facilities abound in Sugar Land. At a neighborhood level, area developments have initiated excellent trails and sidewalks along many tree-lined streets. Parkway areas along some major streets can provide wide corridors for walking and riding. Other opportunities exist along drainage channels, power line corridors, street right-of-ways and along the Brazos River.

The recommended pedestrian and bicycle facilities within the current city limits of Sugar Land total an additional 65 miles of sidepaths, 63 miles of shared use paths (trails), 13 miles of bike lanes, 8 miles of buffered bike lanes, and 18 miles of shared lane markings. A map showing all existing and recommended facilities is shown in Figure E-10. The recommended facilities by type are shown in the body of this report.



Figure E-3 Example of a typical sidewalk in Sugar Land



Figure E-4 Example of a sidepath in Sugar Land



Figure E-5 Example of a shared use path in Sugar Land



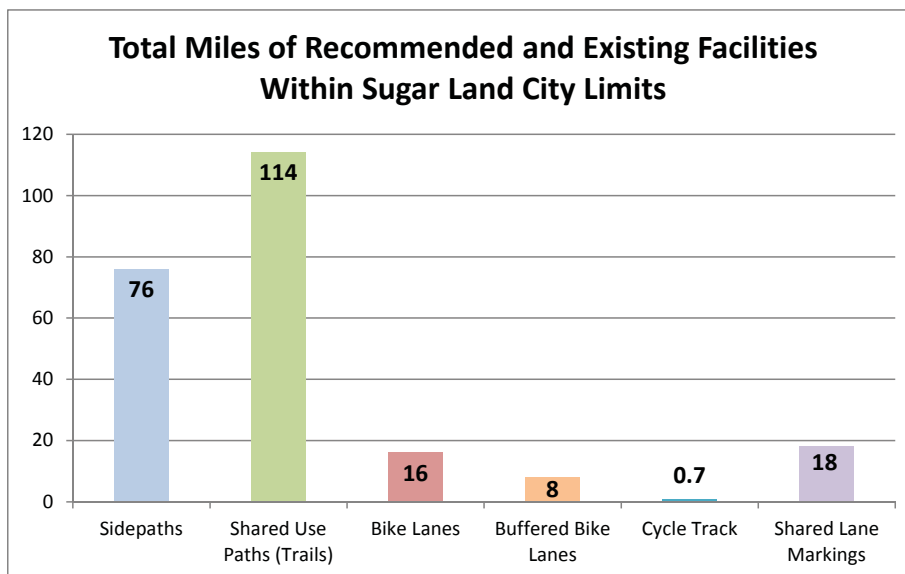
Figure E-6 Typical bike lane



Figure E-7 Example of a buffered bike lane



Figure E-8 Example of a cycle track in San Antonio



#### EXISTING FACILITIES IN SUGAR LAND (2013)

- 3 miles of bike lanes
- 51 miles of shared use paths (trails) - many are HOA trails
- 11 miles of sidepaths

Figure E-9 Total Miles of Existing, High Priority and Long Term Proposed Facilities within Sugar Land City Limits





## Proposed Pedestrian and Bicycle Facilities

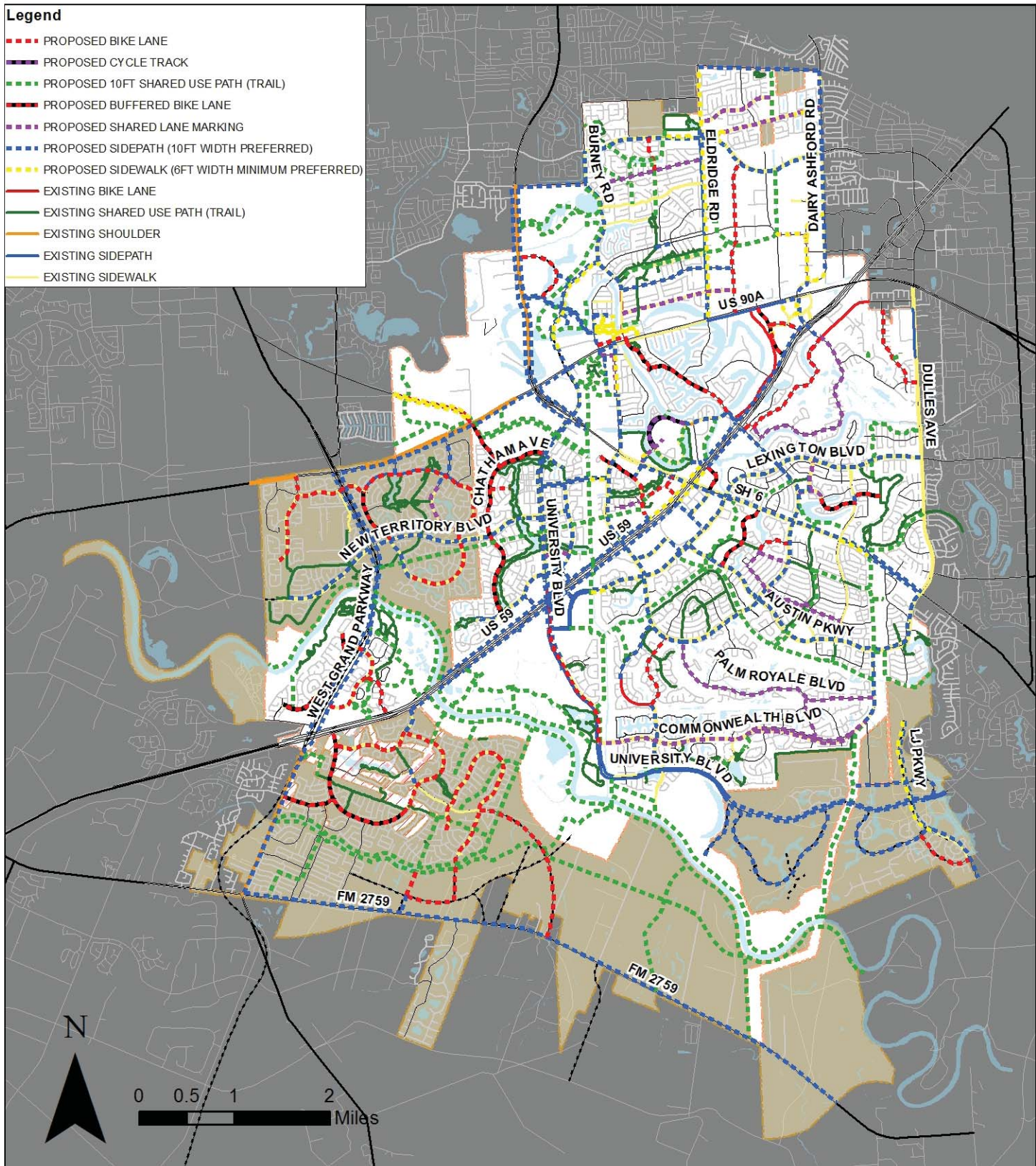


Figure E-10 Proposed Pedestrian and Bicycle Facilities





## Barrier Recommendations

Sugar Land residents have frequently noted that area highways, railroads and the Brazos River remain significant obstacles to connectivity and to increasing walking and bicycle riding in the City. Citizen input generated by this Plan confirmed a high level of interest in developing solutions to resolve these key barriers.

Major barriers in Sugar Land are generally clustered along area highways and the Brazos River. They are illustrated in Figure E-11, and include:

- US 59, with a total of eight potential pedestrian and bicycle crossing opportunities;
- SH 6, with a total of nine potential for pedestrian and bicycle crossings;
- US 90A and the Union Pacific Railroad corridor, with seven potential pedestrian and bicycle crossings;
- Grand Parkway, with four potential pedestrian and bicycle crossing opportunities; and
- The Brazos River, with a total of three potential pedestrian and bicycle crossing opportunities.

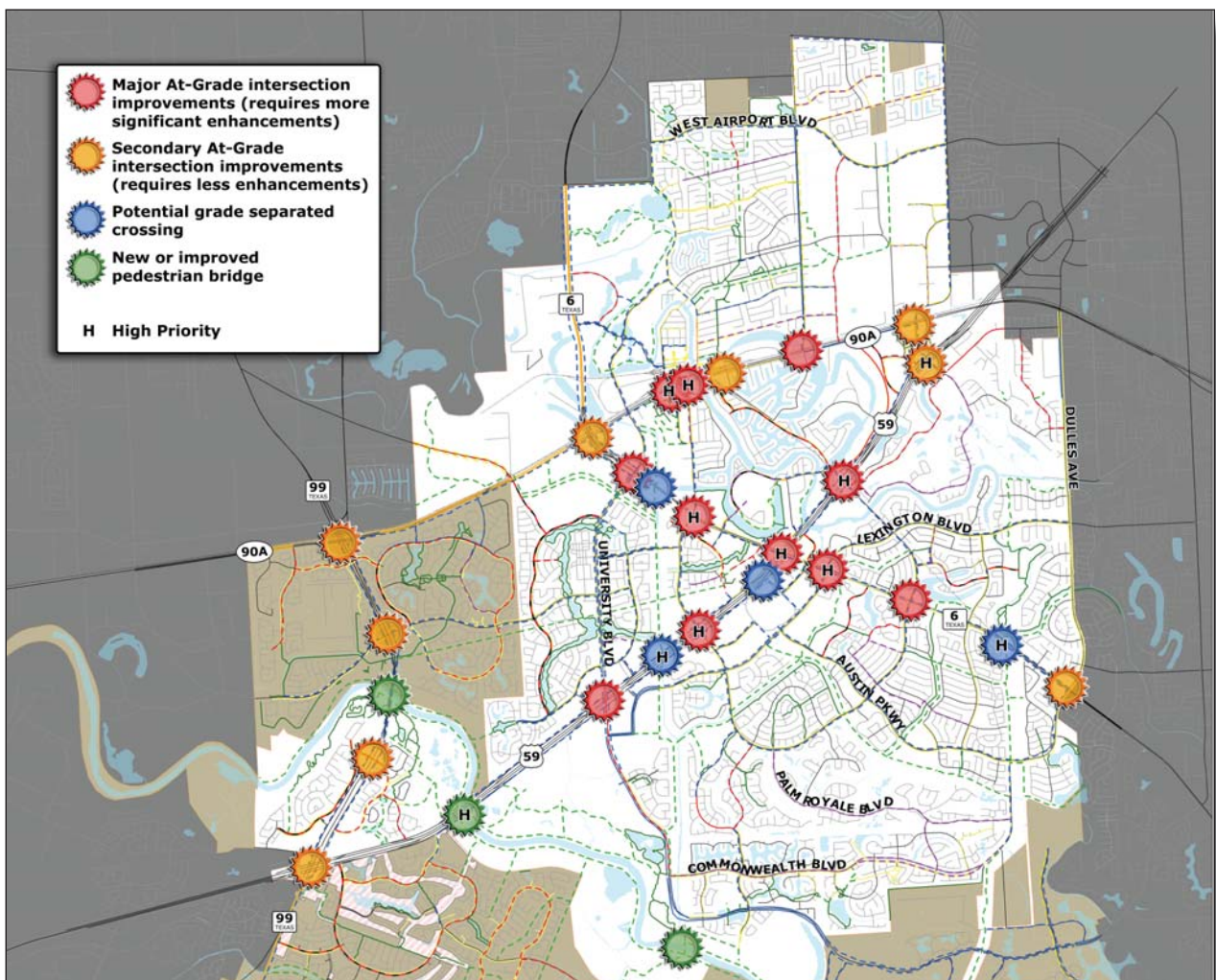


Figure E-11 Barrier Locations



# Policy and Operational Considerations

To further the implementation of pedestrian and bicycle facilities, the Pedestrian and Bicycle Master Plan also recommends that the policy actions be implemented. Some examples of key policy and operational actions are as follows:

- Adjust the City’s Development Code and/or Development Standards;
- Adopt a policy of replacing existing deteriorated sidewalks with the preferred widths;
- In new communities, require the construction of shared use paths that conform to this Plan. Construction shall be at the developer’s expense whenever reasonably proportionate;
- Increase frequency of sweeping of bicycle lanes to keep them free from debris, stones and gravel that can impede the use of the lane; and

Where HOA trail segments are a key connection within the overall citywide network of pedestrian and bicycle facilities, the City should attempt to incorporate these trails into the public citywide network.

# Pedestrian and Bicycle Support Programs

Encouraging residents of Sugar Land to walk and ride more is a vital part of the Master Plan. The City of Sugar Land is already involved in bicycle encouragement efforts, and additional efforts are recommended to get Sugar Land residents to walk and bike. Examples of these efforts include the following:

- The City should provide residents with information about the purpose of new bicycle facility treatments (e.g., bicycle lanes, shared lane markings, sidepaths, etc.) and safe behaviors for using these facilities as they are being designed and installed;
- The Sugar Land Police Department should temporarily increase patrols for a period of time to help roadway users adjust to new on-road facilities when they are installed; and
- Educate students on safe walking and bicycling behaviors.

# Implementation

The recommendations of the Pedestrian and Bicycle Master Plan were assigned a priority ranking of immediate, near term, mid term, or long term (see Figure E-12). Immediate, near term and mid term priorities are recommended to be initiated or completed within ten years. Long term priorities are beyond ten years. Immediate priorities are projects that are low cost, can be completed within three (3) years, and a possible funding source has been identified. Near term projects are those that are critical gap connections and can be completed within four to six (4 to 6) years. Mid term project build on the immediate

<div> <div> HIGH PRIORITY</div> <div>YEARS 1 - 10 +/-</div> </div>	<ul style="list-style-type: none"> <li>• <b>Immediate</b> (low cost projects, can be done now, possible funding identified) (2-3 years)</li> <li>• <b>Near Term</b> (critical gap connectors, etc.)</li> <li>• <b>Mid Term</b> (builds on near term projects, etc.)</li> </ul>
	<div> <div>YEARS 10+</div> </div> <ul style="list-style-type: none"> <li>• <b>Long term</b> (after 10 years, within ETJ area, etc.)</li> </ul>

Figure E-12 Summary of priority rankings





and near term projects and are expected to be completed within seven to ten (7 to 10) years. Finally, long term projects are mainly within the ETJ area and will be initiated beyond ten (10) years. The ultimate goal of this Plan is for the development the majority of the immediate, near term and mid term projects to be completed within ten years. High priority recommendations are shown in Figure E-13.

The projected cost to develop all of the high-priority facilities is shown in Table E.1. Funding sources for a significant portion of the high-priority items have been identified. Those include federal grant funding, potential bond funding, and the construction of certain key segments as part of ongoing developments. The potential range of available funding, as well as the remaining funding needs or "gap", are shown in Table E.2. Other funding sources may include ongoing capital improvement projects, partnerships with other area entities or agencies, future grant opportunities, and additional longer range bond programs.

TABLE E.1 PROJECTED PLAN COSTS FOR HIGH PRIORITY RECOMMENDATIONS		
Facility	Length	Projected Cost Range
Sideways	20.5 miles +/-	\$13,500,000 to \$16,000,000
Shared Use Paths (Trails)	14 miles +/-	\$14,000,000 to \$15,000,000
Bicycle Lanes	11 miles +/-	\$500,000 to \$550,000
Buffered Bike Lanes (includes one cycle track)	8 miles +/-	\$750,000 to \$850,000
Shared Lane Markings	14 miles +/-	\$250,000 to \$325,000
Sidewalks	4.5 miles +/-	\$950,000 to \$1,050,000
Barrier Reduction Items	N/A	\$6,350,000 to \$9,250,000
Encouragement Programs (annual)	N/A	\$25,000 to \$75,000
<b>Total</b>		<b>\$36,000,000 +/- to \$43,000,000+/-</b>

Table E.2 Identified Funding Sources for Implementation	
<b>Total Potential Cost</b>	<b>\$36 – 43 Million +/-</b>
<b>Potential Funding Sources (Years 1 – 5)</b>	
Federal Grant Funding	\$2 Million +/-
2013 Bond Funding (if approved)	\$10 Million +/-
Segments funded by Development	\$4 Million +/-
<b>Funding Gap</b>	<b>\$20 – 27 Million +/-</b>





# High Priority Pedestrian and Bicycle Facilities

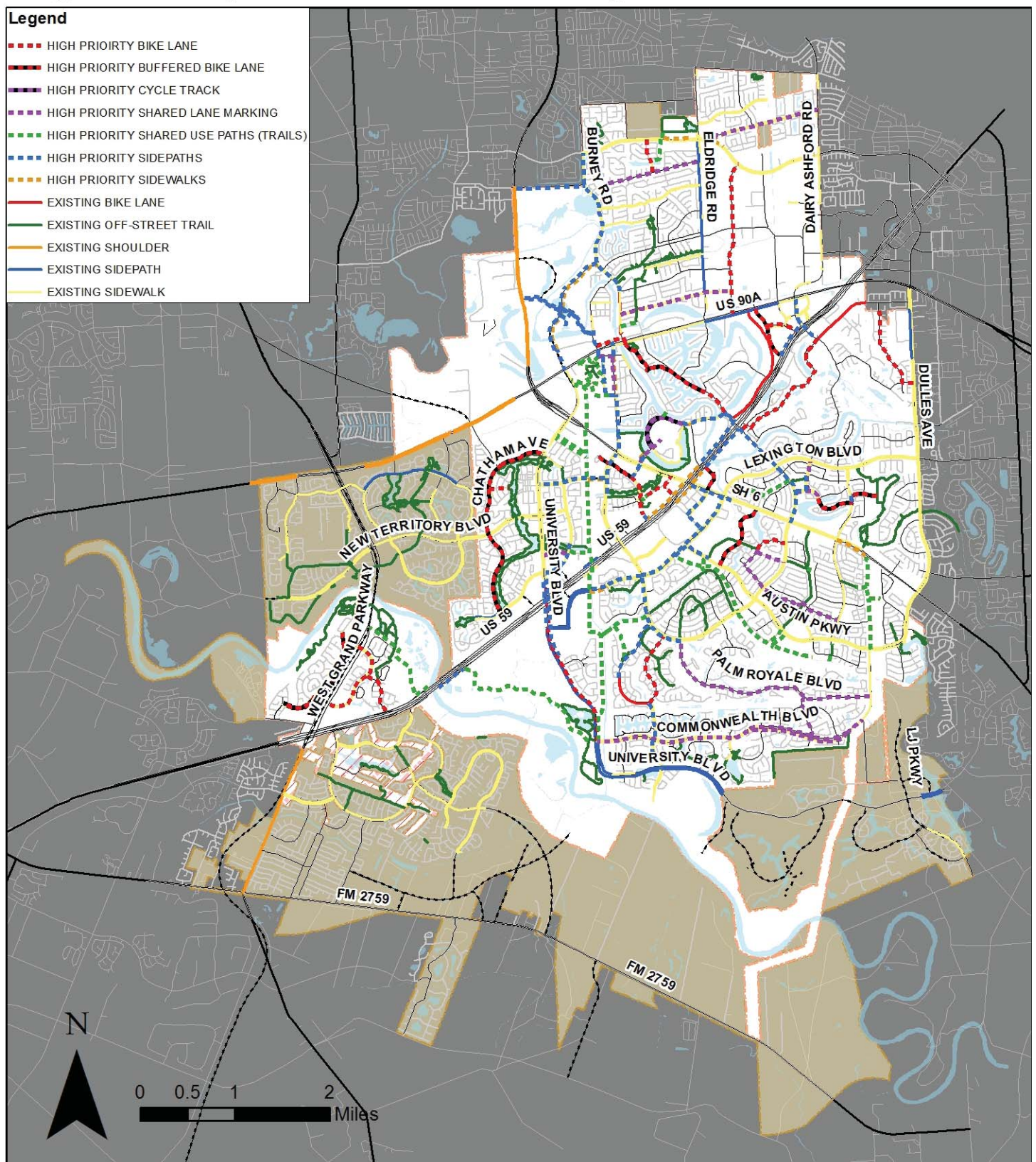


Figure E-13 High priority proposed pedestrian and bicycle facility network





## Measuring Success

The citizens of Sugar Land have expressed interest and support for an accelerated implementation of the priority actions of this Plan. To account to the residents of the City, an annual review of implementation successes over the preceding year should be conducted and presented to the City Council and other key boards. In addition, an action plan for each following year should also be developed and presented for review and comment.

This plan recognizes that our world is changing, and that the best cities must offer their residents a variety of choices as to how to get around. Interest in walking and bicycling, both for fun and to get to key destinations is growing. Sugar Land is on its way to becoming a premier city in which to ride or walk.



*Figure E-14 2013 Bike to Work Day in Sugar Land. Image source: City of Sugar Land*